PROJECT facts

U.S. DEPARTMENT OF ENERGY
OFFICE OF FOSSIL ENERGY
NATIONAL ENERGY TECHNOLOGY LABORATORY

Sequestration

02/2004

WEST COAST REGIONAL CARBON SEQUESTRATION PARTNERSHIP

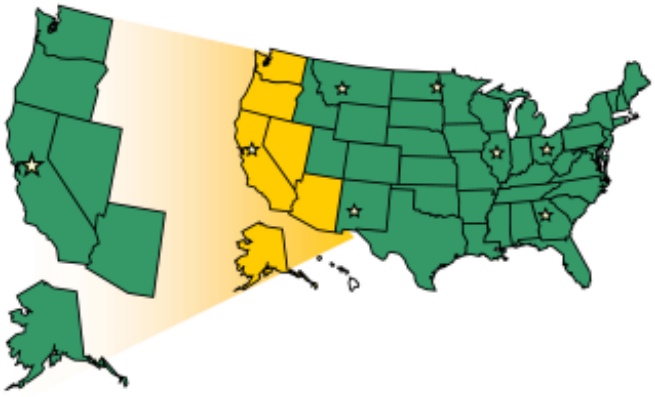
Background

The U.S. Department of Energy has selected the seven partnerships of state agencies, universities, and private companies that will form the core of a nationwide network that will help determine the best approaches for capturing and permanently storing gases that can contribute to global climate change. All together, the partnerships include more than 156 organizations, spanning 40 states, three Indian nations, and two Canadian provinces.

The seven partnerships will develop the framework needed to validate and potentially deploy carbon sequestration technologies. They will evaluate and determine which of the numerous sequestration approaches that have emerged in the last few years are best suited for their specific regions of the country. They will also begin studying possible regulations and infrastructure requirements that would be needed should climate science indicate that sequestration be deployed on a wide scale in the future.

Description

The West Coast Regional Carbon Sequestration Partnership (WCRCSP), led by the California Energy Commission, Sacramento, CA, plans to identify, characterize, and locate CO_2 emission sources in the region and determine capture and long-term sequestration methods by enlisting the help of numerous federal, state, and local government agencies and industry sources. WCRCSP is comprised of representatives from universities, national labs, nonprofit organizations, technology vendors, oil and gas companies, and policy oriented organizations from Alaska, Arizona, California, Nevada, Oregon, and Washington.



West Coast Regional Carbon Sequestration Partnership - (Region 5)

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COST

Length of Contract:
24 Months

Total Project Value:
$2,145,506

DOE/Non-DOE Share:
$1,600,000 / $545,506

The West Coast Region accounts for more than 11% of the nation's CO_2 emissions, with the bulk of these being from California. Total CO_2 emissions from the industrial and utility sectors, which have point sources that are most amenable to capture, are about 56 million tons of carbon equivalent per year. The region offers significant potential for sequestration in porous sediments, especially the brine formations of the Central Valley. Of particular interest is the use of CO_2 for enhanced oil recovery. The West Coast Region has a wealth of forest and agricultural lands, where improved management practices could also sequester substantial quantities of carbon. Technology discussions, regional meetings and joint research will be used to maintain an open dialogue with stakeholders so that a regional strategy for terrestrial and geologic carbon sequestration projects that meet the area's near- and long-term needs can be developed. Demonstration projects will be identified, and plans for their effective implementation will be developed.

Primary Project Goal

The overall goal of this project is to identify the most cost effective, technically feasible, and publicly acceptable options for terrestrial and geologic carbon sequestration in the region.

Objectives

- To develop a geographic information system (GIS) database for characterizing the sources, the potential sinks, and the transportation infrastructure for CO_2 in the region.
- To evaluate region-specific issues affecting technology deployment.
- To implement local and regional public outreach programs.
- To identify optimal demonstration opportunities for geologic and terrestrial sequestration in the region.

Benefits

This project will benefit the U.S. by providing a comprehensive assessment of the sources and potential sinks for CO_2 in the West Coast Region. This data can be integrated with the data from other partnerships to provide a data base covering the entire nation. This effort will also provide information to evaluate potential pilot sequestration projects in the West Coast Region. The project will promote cooperation among stakeholders and ensure public acceptance of CO_2 sequestration, should that become necessary.

PARTNERS

California Energy Commission
Advanced Resources International
Aera
Automated Geogrpahic Reference Center
British Petroleum
California Dept of Forestry and Fire Protection
California Dept of Oil, Gas and Geothermal Resources
California Geologic Survey
California Polytechnic Institute
California State University at Bakersfield
ChevronTexaco
Clean Energy Systems
ConocoPhillips
Electricity Innovation Institute
Electric Power Research Institute
EPA-California
KinderMorgan
Lawrence Berkeley National Labs
Lawrence Livermore National Labs
Massachusetts Institute of Technology
M. Theo Kearney Fdn of Soil Science
Nevada Bureau of Mine and Geology
Nexant Inc.
Occidental Petroleum
Oregon Department of Forestry
Pacific Forest Trust
Salt River Project
San Francisco Dept of the Environment
Science Strategies
SFA Pacific
Shell
Sierra Pacific Resources
Stanford Global Climate Change Program
Terralog Technologies
TransAlta
Washington State DNR
Western Governors Association
Western States Petroleum Association
Winrock International
Oklahoma Gas and Electric
Oxy Permian Ltd.
PacifiCorp
Public Service Co. of New Mexico
Tucson Electric Power Company
WERC
Wyoming State Geological Survey
Yates Petroleum Corporation